General

Guideline Title

Best evidence statement (BESt). The use of yoga to improve strength, balance, and coordination.

Bibliographic Source(s)

Cincinnati Children's Hospital Medical Center. Best evidence statement (BESt). The use of yoga to improve strength, balance, and coordination. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2014 Jun 10. 9 p. [13 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Recommendations

Major Recommendations

The strength of the recommendation (strongly recommended, recommended, or no recommendation) and the quality of the evidence (1aâ€'5b) are defined at the end of the "Major Recommendations" field.

1. It is recommended that yoga be used in conjunction with standard care to improve the following skills:
    a. Balance (Birdee et al., 2009 [1a]; Jeter et al., 2014 [1b]; Natural Standard, 2014 [1b]; Galantino, Galbavy, & Quinn, 2008 [1b])
    b. Coordination (Birdee et al., 2009 [1a]; Natural Standard, 2014 [1b]; Galantino, Galbavy, & Quinn, 2008 [1b]; Telles et al., 2013 [2b])
    c. Strength (Birdee et al., 2009 [1a]; Galantino, Galbavy, & Quinn, 2008 [1b]; Telles et al., 2013 [2b]; Donahoe-Fillmore et al., 2010 [4a])
2. It is recommended caution be taken in using yoga with patients with the following conditions:
    a. Certain poses should be avoided, modified or used with caution during pregnancy (Natural Standard, 2014 [1b]). Modifications should be offered during balance poses in order to avoid falls; corpse pose should be modified to encourage left side lying instead of supine; most backbends and inversions should be avoided; open twists which may compromise or overstretch the abdominal area should be avoided.
    b. Inverted poses should be avoided in patients with ocular pressure disorders and those with disk disease of the spine and neck (Natural Standard, 2014 [1b]).

Definitions:

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local Consensus

†a = good quality study; b = lesser quality study.

Table of Language and Definitions for Recommendation Strength

Strength	Definition
It is strongly recommended that… It is strongly recommended that… not…	When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly outweigh risks and burdens (or vice-versa for negative recommendations).
It is recommended that… It is recommended that… not…	When the dimensions for judging the strength of the evidence are applied, there is moderate support that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation…	

Note: See the original guideline document for the dimensions used for judging the strength of the recommendation.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Any disease or condition which results in decreased occupational performance due to decreased strength, balance and/or coordination

Guideline Category

Management

Treatment

Clinical Specialty

Family Practice

Pediatrics

Physical Medicine and Rehabilitation

Intended Users

Occupational Therapists

Physical Therapists

Physician Assistants

Physicians

Guideline Objective(s)

To evaluate, in children ages 7–17 demonstrating decreased occupational performance, if yoga in addition to standard care versus standard care alone, improves strength, balance and/or coordination

Target Population

Patients presenting for therapy to address decreased occupational performance due to decreased strength, balance and/or coordination

Note: This guideline does not apply to individuals who:

Are less than 7 years of age
Are unable to follow simple directions

Interventions and Practices Considered

Yoga (in addition to standard care)

Major Outcomes Considered

Improvement in strength, balance, and coordination

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Search Strategy

- Databases: MEDLINE, Cochrane, PubMed, CINAHL Plus with Full Text, Alt Healthwatch, SPORTDiscus, PsycINFO, ERIC, Natural Standard, PEDro, OTseeker

- Search terms: strength, balance, coordination, pediatric, yoga
- Date range for literature search: From database inception to February 25, 2014. Search was completed between January 14, 2014 and February 25, 2014

There were a total 32,539 hits for the search term "yoga" in the databases. These hits were filtered in the listed databases for "Yoga+pediatric+ (strength or balance or coordination)", and were filtered to 32 results. From these studies, titles were reviewed and were included only if yoga was the only intervention, children were included in the sample, and outcome measures included strength, balance, and/or coordination. Duplicates were excluded. Only English language studies were included. Theses and dissertations were excluded. Studies which were included within the systematic reviews were excluded.

Number of Source Documents

In total, four systematic reviews, one randomized controlled trial, and one case-controlled study informed the Population, Intervention, Comparison and Outcomes (PICO) question.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Table of Evidence Levels

Quality Level	Definition
1a† or 1b†	Systematic review, meta-analysis, or meta-synthesis of multiple studies
2a or 2b	Best study design for domain
3a or 3b	Fair study design for domain
4a or 4b	Weak study design for domain
5a or 5b	General review, expert opinion, case report, consensus report, or guideline
5	Local Consensus

†a = good quality study; b = lesser quality study.

Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Table of Language and Definitions for Recommendation Strength

Strength	Definition
It is strongly recommended that… It is strongly recommended that… not…	When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly outweigh risks and burdens (or vice-versa for negative recommendations).
It is recommended that… It is recommended that… not…	When the dimensions for judging the strength of the evidence are applied, there is moderate support that benefits are closely balanced with risks and burdens.
There is insufficient evidence and a lack of consensus to make a recommendation…	

Note: See the original guideline document for the dimensions used for judging the strength of the recommendation.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

This Best Evidence Statement (BESt) has been reviewed against quality criteria by two independent reviewers from the Cincinnati Children's Hospital Medical Center (CCHMC) Evidence Collaboration.

Evidence Supporting the Recommendations

References Supporting the Recommendations

Birdee GS, Yeh GY, Wayne PM, Phillips RS, Davis RB, Gardiner P. Clinical applications of yoga for the pediatric population: a systematic review. Acad Pediatr. 2009 Jul-Aug;9(4):212-220.e1-9. PubMed

Donahoe-Fillmore B, Brahler C, Fisher M, Beasley K. The effect of yoga postures on balance, flexibility, and strength in healthy high school females. J Womens Health Phys Therap. 2010;34(1):10-17.

Galantino ML, Galbavy R, Quinn L. Therapeutic effects of yoga for children: a systematic review of the literature. Pediatr Phys Ther. 2008;20(1):66-80. PubMed

Jeter PE, Nkodo AF, Moonaz SH, Dagnelie G. A systematic review of yoga for balance in a healthy population. J Altern Complement Med. 2014 Apr;20(4):221-32. PubMed

Natural Standard. Yoga [Monograph]. [internet]. Natural Standard; 2014

Telles S, Singh N, Bhardwaj AK, Kumar A, Balkrishna A. Effect of yoga or physical exercise on physical, cognitive and emotional measures in children: a randomized controlled trial. Child Adolesc Psychiatry Ment Health. 2013;7(1):37. PubMed

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate use of yoga to improve strength, balance, and coordination in children ages 7–17 demonstrating decreased occupational performance

Potential Harms

This recommendation should be used with caution among patients who:

- Are pregnant
- Have ocular pressure disorders
- Have disk disease of the spine and neck

Qualifying Statements

Qualifying Statements

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.

Implementation of the Guideline

Description of Implementation Strategy

Applicability & Feasibility Issues

Potential barriers to implementing these recommendations include:

- It is recommended that the provider be certified by the Yoga Alliance in teaching yoga.
- Cultural differences should be considered when offering yoga as a treatment modality; yoga has origins in Indian philosophy and may be deemed by some families to run counter to their own philosophical or religious beliefs.

Implementation Tools

Audit Criteria/Indicators

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2014 Jun 10

Guideline Developer(s)

Cincinnati Children's Hospital Medical Center - Hospital/Medical Center

Source(s) of Funding

Cincinnati Children's Hospital Medical Center

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

Team Leader/Author: Mara Sampson, M.Ed, OTR/L, RYT-200

Support/Consultant: Carolyn Lehn, PT

Support/Consultants: Rachel Baker, PhD, RN

Financial Disclosures/Conflicts of Interest

Conflict of interest declaration forms are filed with the Cincinnati Children's Hospital Medical Center (CCHMC) Evidence-Based Decision Making (EBDM) group. No financial conflicts of interest were found.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Electronic copies: Available from the Cincinnati Children's Hospital Medical Center Web site .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

Availability of Companion Documents

The following are available:

- Judging the strength of a recommendation. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2009 May 7. 1 p. Electronic copies: Available from the Cincinnati Children's Hospital Medical Center (CCHMC) Web site .
- Grading a body of evidence to answer a clinical question. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2009 May 7. 1 p. Electronic copies: Available from the CCHMC Web site .
- Table of evidence levels. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2009 May 7. 1 p. Electronic copies: Available from the CCHMC Web site .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

In addition, suggested process or outcome measures are available in the original guideline document .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on September 30, 2014.

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